

REMARKS

Claims 1, 9, 16, 23, 33 and 41-44 are amended. No new claims are added. Claims 2, 12, 20, 27 and 35 are cancelled without prejudice. Applicant expressly reserves the right to pursue the cancelled claims in one or more continuation or divisional applications.

Claims 1, 3-11, 13-19, 21-26, 28-34 and 36-44 are pending for consideration. In view of the following amendments and remarks, Applicant respectfully requests that this application be allowed and forwarded on to issuance.

§ 101 Rejections

Claims 1 and 41-44 stand rejected under 35 U.S.C. § 101 because, in the Office’s opinion, they are not limited to tangible embodiments. Claims 2-8 also stand rejected under § 101 based on their dependency on claim 1. Claim 2 has been cancelled as indicated above and the §101 rejection thereof is now moot. However, Applicant respectfully disagrees with the Office and submits that claims 1 and 3-8 and 41-44, as respectively amended, comply with the § 101 standard for patentable subject matter.

Specifically, with regard to claim 1 (as amended), that claim recites: “One or more *tangible* computer-readable media comprising ...”. As claims 3-8 depend (directly or indirectly) from claim 1, as amended, it is axiomatic that they too include all of the features of claim 1, as amended, as well as their own respectively patentable subject matter. Claims 41-44 have also been respectively amended to include recitation of the term “tangible” in regard to the computer-readable medium or media recited thereby.

1 Accordingly, Applicant respectfully submits that claims 1, 3-8 and 41-44,
2 as respectively amended, comply with the requirements of § 101 and requests that
3 the corresponding § 101 rejections be withdrawn.

4

5 § 112 Rejections

6 Claims 1-8 and 41-44 stand rejected under 35 U.S.C. § 112, first paragraph,
7 for, in the Office's opinion, including intangible embodiments and thus failing to
8 comply with the enablement requirement. Claim 2 has been cancelled as indicated
9 above and the § 112 rejection thereof is now moot. The Applicant respectfully
10 disagrees for at least those reasons argued above in regard to the § 101 rejection of
11 those same claims, and asserts that claims 1, 3-8 and 41-44, as respectively
12 amended, satisfy the enablement requirement of 35 U.S.C. § 112, first paragraph.
13 The Applicant thus respectfully requests that the rejection of claims 1, 3-8 and
14 41-44 under § 112, first paragraph, be withdrawn.

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16 § 102 and § 103 Rejections

17 Claims 1, 5-7, 9-11, 16-17, 22-25, 29, 31-33 37, 39 and 40-44 stand
18 rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No.
19 5,799,168 ("Ban").

20 Claims 2, 12, 20, 27 and 35 stand rejected under 35 U.S.C. § 103(a) as
21 being unpatentable over Ban as cited above, in view of U.S. Patent No. 6,000,006
22 ("Bruce").

23 Claims 3-4, 13-14, 19, 21, 26, 28, 34 and 36 stand rejected under 35 U.S.C.
24 § 103(a) as being unpatentable over Ban, in view of U.S. Patent No. 6,493,807
25 ("Martwick").

1 Claims 1, 5-7, 9-11, 16-17, 22-25, 29, 31-33 37, 39 and 40-44 stand
2 rejected under 35 U.S.C. § 103(a) as being unpatentable over Ban, in view of U.S.
3 Patent No. 6,253,281 (“Hall”).

4 Claims 2, 12, 20, 27 and 35 stand rejected under 35 U.S.C. § 103(a) as
5 being unpatentable over Ban in view of Hall, in further view of Bruce.

6 Claims 3-4, 13-14, 19, 21, 26, 28, 34 and 36 stand rejected under 35 U.S.C.
7 § 103(a) as being unpatentable over Ban in view of Hall, in further view of
8 Martwick.

9
The Claims

10 **Claim 1** has been amended and, as amended, recites one or more tangible
11 computer-readable media comprising a flash memory driver that is executable by a
12 computer to interface between a file system and one or more flash memory media,
13 the flash memory driver comprising [added language appears in bold italics]:
14

- 15 • flash abstraction logic that is invokable by the file system to manage
16 flash memory operations without regard to the type of the one or
more flash memory media; and
- 17 • flash media logic configured to interact with different types of the
flash memory media;
- 18 • wherein the flash abstraction logic invokes the flash media logic to
perform memory operations that are potentially performed in
different ways depending on the type of the flash memory media,
and further wherein the flash memory driver is flash memory
medium agnostic,
- 19 • *and wherein one of the flash memory operations includes*
performing wear-leveling operations associated with the flash
memory medium by way of circular and continuous advancement
of a write pointer.

20
21 In making out the § 102 rejection of this claim, the Office argues that its
22 subject matter is anticipated by Ban. In making out it's § 103 rejection of this
23

1 claim, the Office argues that its subject matter is rendered obvious by the
2 combined teachings of Ban and Hall.

3 Applicant respectfully disagrees and traverses the Office's rejections. For
4 the reasons set forth below, the requirements for anticipation over Ban are not
5 established. Furthermore, the rejection over the combination of Ban and Hall does
6 not establish a *prima facie* case of obviousness.

7 First, Ban fails to provide at least one feature as positively recited in the
8 claimed subject matter.

9 Second, the combination of Ban and Hall fails to teach or suggest at least
10 one feature as positively recited in the claimed subject matter.

11

12 **A. Ban Fails to Disclose Claimed Subject Matter**

13 The Office argues that Ban discloses all of the subject matter of this claim.
14 Respectfully, the Office is in error on this point as described below.

15 Specifically, Ban fails to provide flash memory operations that include
16 performing wear-leveling operations associated with the flash memory medium by
17 way of circular and continuous advancement of a write pointer, as positively
18 recited by claim 1, as amended. In fact, Ban is totally devoid of any *wear-leveling*
19 *operation* regarding a flash memory medium in any way, or for any purpose.

20 Accordingly, Ban fails to provide all of the features as positively recited by
21 claim 1, as amended. The § 102 rejection of claim 1 (as amended) is invalid and
22 must be withdrawn.

23

24 **B. Ban and Hall Fail to Teach or Suggest Claimed Subject Matter**

25 As substantially argued at A. above, Ban fails to teach or suggest flash

1 memory operations that include performing wear-leveling operations associated
2 with the flash memory medium by way of circular and continuous advancement of
3 a write pointer, as positively recited by claim 1, as amended.

4 In addition, Hall fails to cure the foregoing deficiency of Ban. Specifically,
5 Hall fails to teach or suggest flash memory operations that include performing
6 wear-leveling operations associated with the flash memory medium by way of
7 circular and continuous advancement of a write pointer, as positively recited by
8 claim 1, as amended. There is no way to select elements from Ban, and then to
9 somehow combine those elements with other elements selected from Hall in order
10 to arrive at the subject matter recited by claim 1, as amended, as no possible
11 combination of Ban and Hall teaches or suggests all of the recited features.

12 Accordingly, for at least these reasons, the Office's *prima facie* case of
13 obviousness fails. In turn, the § 103 rejection of this claim is invalid and must be
14 withdrawn.

15 **Claims 3-8** are allowable as depending from an allowable base claim.
16 Furthermore, to the extent that claim 1 is allowable, the § 103 rejection of claims
17 3-4 over the combination of Ban with Martwick, the rejection of claims 5-7 over
18 the combination of Ban with Hall, and the rejection of claims 3-4 over the
19 combination of Ban with Hall and Martwick, is not seen to add anything of
20 significance.

21 **Claim 9** has been amended and, as amended, recites a flash driver,
22 comprising [added language appears in bold italics]:

23 • flash abstraction logic, interposed between a file system and a flash
24 memory medium, configured to:
25 • (a) map a logical sector status from the file system to a physical
 sector status of the flash memory medium; and

- 1 • (b) maintain memory requirements associated with operating the
- 2 flash memory medium;
- 3 • wherein the flash driver is located remote from the flash memory
- 4 medium,
- 5 • *and wherein the memory requirements include managing wear-*
- 6 *leveling operations associated with the flash memory medium by*
- 7 *way of circular and continuous advancement of a write pointer.*

5 In making out the § 102 rejection of this claim, the Office argues that its
6 subject matter is anticipated by Ban. In making out the § 103 rejection of this
7 claim, the Office Argues that its subject matter is rendered obvious by the
8 combined teachings of Ban and Hall.

9 Applicant respectfully disagrees, particularly in view of the amendment and
10 the discussion of the combination of Ban and Hall above in regard to claim 1, as
11 amended. Specifically, Ban fails to provide, teach or suggest memory
12 requirements that include managing wear-leveling operations associated with the
13 flash memory medium by way of circular and continuous advancement of a write
14 pointer, as positively recited by the subject matter of claim 9, as amended.

15 In addition, Hall fails to cure the deficiencies of Ban, as Hall fails to teach
16 or suggest memory requirements that include managing wear-leveling operations
17 associated with the flash memory medium by way of circular and continuous
18 advancement of a write pointer.

19 Accordingly, for at least the foregoing reasons, the respective § 102 and
20 § 103 rejections of claim 9, as amended, are invalid and must be withdrawn.
21 Therefore, claim 9 (as amended) is allowable.

22 **Claims 10-11 and 13-15** are allowable as depending from an allowable
23 base claim. Additionally, to the extent that claim 9 is allowable, the § 103
24 rejection of claims 13-14 over the combination of Ban with Martwick, the
25 rejection of claims 10-11 over the combination of Ban with Hall, and the rejection

1 of claims 13-14 over the combination of Ban with Hall and Martwick, is not seen
2 to add anything of significance.

3 **Claim 16** has been amended and, as amended, recites a flash driver,
4 comprising [added language appears in bold italics]:

5

- 6 • user programmable flash medium logic, configured to read, write
and erase data to and from a flash memory medium; and
- 7 • flash abstraction logic, interposed between a file system and flash
memory medium to maintain universal requirements for the
operation of the flash memory medium;
- 8 • wherein the flash memory driver is flash memory medium agnostic,
- 9 • ***and wherein the universal requirements include managing wear-
leveling operations associated with the flash memory medium by
way of circular and continuous advancement of a write pointer.***

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12 In making out the § 102 and § 103 rejections of this claim, the Office
13 argues that its subject matter is anticipated by Ban, and is rendered obvious by the
14 combination of Ban and Hall. Applicant respectfully disagrees and traverses the
15 Office's rejections. Specifically, Ban fails to provide, teach or suggest universal
16 requirements that include managing wear-leveling operations associated with the
17 flash memory medium by way of circular and continuous advancement of a write
18 pointer, as positively recited by the subject matter of claim 16, as amended. In
19 addition, Hall fails to cure the deficiencies of Ban, as Hall fails to teach or suggest
20 universal requirements that include managing wear-leveling operations associated
21 with the flash memory medium by way of circular and continuous advancement of
22 a write pointer.

1 Accordingly, for at least the foregoing reasons, the respective § 102 and
2 § 103 rejections of claim 16, as amended, are invalid and must be withdrawn.
3 Therefore, claim 16 (as amended) is allowable.

4 **Claims 17-19 and 21-22** are allowable as depending from an allowable
5 base claim. Additionally, to the extent that claim 16 is allowable, the § 103
6 rejection of claims 19 and 21 over the combination of Ban with Martwick, the
7 rejection of claims 17 and 22 over combination of Ban with Hall, and the rejection
8 of claims 19 and 21 over the combination of Ban with Hall and Martwick, is not
9 seen to add anything of significance.

10 **Claim 23** has been amended and, as amended, recites a processing device
11 that uses a flash memory medium for storage of data, comprising [added language
12 appears in bold italics]:

- 13 • a file system, configured to control data storage for the processing
14 device;
- 15 • flash media logic, configured to perform physical sector operations
16 to a flash memory medium based on physical sector commands,
17 wherein the flash medium logic comprises a set of programmable
18 entry points that can be implemented by a user to interface with any
19 type of flash memory medium selected; and
- 20 • flash abstraction logic, configured to maintain flash memory
21 requirements that are necessary to operate the flash memory
22 medium,
- 23 • *wherein the flash memory requirements include managing wear-
24 leveling operations associated with the flash memory medium by
25 way of circular and continuous advancement of a write pointer.*

22 In making out the § 102 and § 103 rejections of this claim, the Office
23 argues that its subject matter is anticipated by Ban, and is rendered obvious by the
24 combination of Ban and Hall. Applicant respectfully disagrees and traverses the
25 Office's rejections. Specifically, Ban fails to provide, teach or suggest flash

1 memory requirements that include managing wear-leveling operations associated
2 with the flash memory medium by way of circular and continuous advancement of
3 a write pointer, as positively recited by the subject matter of claim 23, as amended.
4 Hall fails to cure the deficiencies of Ban. Specifically, Hall fails to teach or
5 suggest flash memory requirements that include managing wear-leveling
6 operations associated with the flash memory medium by way of circular and
7 continuous advancement of a write pointer.

8 Accordingly, for at least the foregoing reasons, the respective § 102 and
9 § 103 rejections of claim 23, as amended, are invalid and must be withdrawn.
10 Therefore, claim 23 (as amended) is allowable.

11 **Claims 24-26 and 28-32** are allowable as depending from an allowable
12 base claim. In addition, to the extent that claim 23 is allowable, the § 103
13 rejection of claims 26 and 28 over the combination of Ban with Martwick, the
14 rejection of claims and the rejection of claims 24-25, 29 and 31-32 over
15 combination of Ban with Hall, and the rejection of claims 26 and 28 over the
16 combination of Ban with Hall and Martwick, is not seen to add anything of
17 significance.

18 **Claim 33** has been amended and, as amended, recites in a processing
19 device that uses a flash memory medium for storage of data, a method for driving
20 the flash memory medium, comprising [added language appears in bold italics]:

21 • managing rules associated with operating the flash memory medium
22 in a flash abstraction logic; and
23 • issuing physical sector commands directly to the flash memory
24 medium from a flash medium logic;
25 • wherein the method is flash memory medium agnostic,

1 • *and wherein one of the rules includes managing wear-leveling*
2 *operations associated with the flash memory medium by way of*
3 *circular and continuous advancement of a write pointer.*

4 In making out the § 102 and § 103 rejections of this claim, the Office
5 argues that its subject matter is anticipated by Ban, and is rendered obvious by the
6 combination of Ban and Hall. Applicant respectfully disagrees and traverses the
7 Office's rejections. Specifically, Ban fails to provide, teach or suggest managing
8 wear-leveling operations associated with the flash memory medium by way of
9 circular and continuous advancement of a write pointer, as positively recited by
10 the subject matter of claim 33, as amended. Hall fails to cure the deficiencies of
11 Ban. Specifically, Hall fails to teach or suggest managing wear-leveling
12 operations associated with the flash memory medium by way of circular and
13 continuous advancement of a write pointer.

14 Accordingly, for at least the foregoing reasons, the respective § 102 and
15 § 103 rejections of claim 33, as amended, are invalid and must be withdrawn.
16 Therefore, claim 33 (as amended) is allowable.

17 **Claims 34 and 36-41** are allowable as depending from an allowable base
18 claim. Additionally, to the extent that claim 33 is allowable, the § 103 rejection of
19 claims 34 and 36 over the combination of Ban with Martwick, the rejection of
20 claims 37, 39 and 40-41 over the combination of Ban with Hall, and the rejection
21 of claims 34 and 36 over the combination of Ban with Martwick and Hall, is not
22 seen to add anything of significance.

23 **Claim 42** has been amended and, as amended, recites a tangible computer-
24 readable medium for a flash driver, comprising [added language appears in bold
25 italics]:

- 1 • computer-executable instructions that, when executed, direct the
- 2 flash driver to provide an interface between a file system, selected
- 3 from one of a plurality of different file systems, and a flash memory
- 4 medium, selected from one of a plurality of different flash memory
- 5 media,
- 6 • wherein the flash driver is located remote from the flash memory
- 7 medium,
- 8 • *and wherein wear-leveling of the flash memory medium is*
- 9 *performed by way of circular and continuous advancement of a*
- 10 *write pointer.*

1 In making out the § 102 and § 103 rejections of this claim, the Office
2 argues that its subject matter is anticipated by Ban, and is rendered obvious by the
3 combination of Ban and Hall. Applicant respectfully disagrees and traverses the
4 Office's rejections. Specifically, Ban fails to provide, teach or suggest that wear-
5 leveling of the flash memory medium is performed by way of circular and
6 continuous advancement of a write pointer, as positively recited by the subject
7 matter of claim 42, as amended. Hall fails to cure the deficiencies of Ban.
8 Specifically, Hall fails to teach or suggest that wear-leveling of the flash memory
9 medium is performed by way of circular and continuous advancement of a write
10 pointer.

11 Accordingly, for at least the foregoing reasons, the respective § 102 and
12 § 103 rejections of claim 42, as amended, are invalid and must be withdrawn.
13 Therefore, claim 42 (as amended) is allowable.

14 **Claim 43** has been amended and, as amended, recites a tangible computer-
15 readable medium for a flash driver, comprising [added language appears in bold
16 italics]:

- 17 • computer-executable instructions that, when executed, direct the
- 18 flash driver to provide an interface between a file system, selected

1 from one of a plurality of different file systems, and a flash memory
2 medium, selected from one of a plurality of different flash memory
3 media,
4 • wherein the flash driver is located remote from the flash memory
medium,
5 • *and wherein wear-leveling of the flash memory medium is
performed by way of circular and continuous advancement of a
write pointer.*

6 In making out the § 102 and § 103 rejections of this claim, the Office
7 argues that its subject matter is anticipated by Ban, and is rendered obvious by the
8 combination of Ban and Hall. Applicant respectfully disagrees and traverses the
9 Office's rejections.

10 Accordingly, for at least reasons substantially analogous to those argued
11 above in regard to claim 42, the respective § 102 and § 103 rejections of claim 43
12 (as amended) are invalid and must be withdrawn. Therefore, claim 43, as
13 amended, is allowable.

14 **Claim 44** has been amended and, as amended, recites a tangible computer-
15 readable medium for a flash driver, comprising [added language appears in bold
16 italics]:

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18 • computer-executable instructions that, when executed, direct the
flash driver to:
19 • provide an interface between a file system, selected from one of a
plurality of different files systems, and a flash memory medium,
selected from one of a plurality of different flash memory media;
20 • manage a set of characteristics that are common to the plurality of
different flash memory media at a flash abstraction logic; and
21 • provide programmable entry points that can be optionally selected
by a user to interface with the type of flash memory medium
selected;
22 • wherein the flash driver is located remote from the flash memory
medium and the flash driver is flash memory medium agnostic,
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- 2 • *and wherein wear-leveling of a flash memory medium is*
3 *performed by way of circular and continuous advancement of a*
4 *write pointer.*

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6 In making out the § 102 and § 103 rejections of this claim, the Office
7 argues that its subject matter is anticipated by Ban, and is rendered obvious by the
8 combination of Ban and Hall. Applicant respectfully disagrees and traverses the
9 Office's rejections.

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11 Accordingly, for at least reasons substantially analogous to those argued
12 above in regard to claim 42, the respective § 102 and § 103 rejections of claim 44,
13 as amended, are invalid and must be withdrawn. Therefore, claim 44 (as
14 amended) is allowable.

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1 **Conclusion**

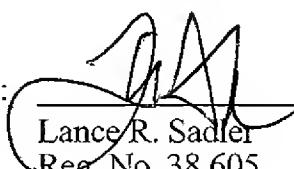
2 The claims are in condition for allowance. Accordingly, Applicant requests
3 a Notice of Allowability be issued forthwith. If the Office's next anticipated
4 action is to be anything other than issuance of a Notice of Allowability, Applicant
5 respectfully requests a telephone call for the purpose of scheduling an interview.

6

7 Respectfully submitted,

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9 Dated: 9/3/06

10 By: 

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